

IN THE CLAIMS

This listing of the claim will replace all prior versions and listings of claim in the present application.

Listing of Claims

1. (currently amended) A cache control method in a data processing system having a computer for executing a program, and a storage unit having a cache memory for storing data transmitted as a result of execution of said program, a cache controller having a cache management table and a disk device having memory medium for storing data stored in said cache memory, wherein

wherein said computer makes and sends a write request, in a write-through mode, thereby to update data of the program unreflected upon said disk device, issues a flush command to said storage unit in order to reflect a page being on said cache memory unreflected upon said memory medium, onto said memory medium, and makes and sends a write-request, in the write-through mode, to said storage unit for requesting write of a synchronous point journal which records, in the storage unit, completion of a synchronous point process until a check point from said computer to said storage unit,

wherein said cache controller of storage unit, responding to said flush command from said computer, if a mode in said cache management table corresponding to a page for said flush command coincides with write-after, writes the page indicated by a cache pointer for the page in said cache management table to said memory medium and changes a cache management entry in said cache management table to a state of reflected,

wherein said cache controller of said storage unit, responding to said write request, if a mode designated during said write request is write-after, writes data in said cache memory, and changes said cache management entry for the page to a state of unreflected, and

wherein said cache controller of said storage unit, responding to said write request, if said mode designated during said write request is not write-after, writes the page to both said cache memory and said memory medium, thereafter changes said cache management entry for the page to the state reflected responds to an input of a request for storing data transmitted from said program to store the transmitted data in said cache memory, and responds to an input of a request for flushing transmitted from said program to store, in said disk device, the data stored in said cache memory,

— wherein said flush request is transmitted from said program to said storage unit at the timing of a check point in a transaction process operated by said program.

Claims 2 (canceled).

3. (currently amended) The cache control method according to claim 1, wherein each of said write data-storing-request and said flush command request includes area identification information for specifying areas in said cache memory, and wherein when said write data-storing-request is inputted, said transmitted data is stored in an area specified by the area identification information of said write data-storing-request and when said flush command request is inputted, the data stored in the area specified by

the area identification information of said ~~write data storing~~ request is stored in said disk device.

Claim 4 (canceled).

5. (currently amended) The cache control method according to claim 3, wherein the area identification information of said cache memory includes volume identification information and segment identification information.

6. (currently amended) A data processing system comprising:
a computer for executing a program, and
a storage unit having a cache memory for storing data transmitted as a result of execution of said program, a cache controller having a cache management table and a disk device having memory medium for storing data stored in said cache memory and a disk device for storing data stored in said cache memory,

wherein said computer makes and sends a write request, in a write-through mode, thereby to update data of the program unreflected upon said disk device, issues a flush command to said storage unit in order to reflect a page being on said cache memory unreflected upon said memory medium, onto said memory medium, and makes and sends a write request, in the write-through mode, to said storage unit for requesting write of a synchronous point journal which records, in the storage unit, completion of a synchronous point process until a check point from said computer to said storage unit,

wherein said cache controller of said storage unit, responding to said flush command from said computer, if a mode in said cache management table corresponding to a page for said flush command coincides with write-after, writes the page indicated by a cache pointer for the page in said cache management table to said memory medium and changes a cache management entry in said cache management table to a state of reflected,

wherein said cache controller of said storage unit, responding to said write request, if a mode designated during said write request is write-after, writes data in said cache memory, and changes said cache management entry for the page to a state of unreflected, and

wherein said cache controller of said storage unit, responding to said write request, if said mode designated during said write request is not write-after, writes the page to both said cache memory and said memory medium, thereafter changes said cache management entry for the page to the state of reflected.

said storage unit includes:

means responsive to an input of a request for storing data transmitted from said program to store the transmitted data in said cache memory; and

means responsive to an input of a request for flushing transmitted from said program to store, in said disk device, the data stored in said cache memory;

wherein said flush request is transmitted from said program to said storage unit at the timing of a check point in a transaction process operated by said program.

Claim 7 (canceled).

8. (currently amended) The data processing system according to claim 6, wherein each of said write data storing request and said flush command request includes area identification information for specifying areas in said cache memory, and wherein when said write data storing request is inputted, said transmitted data is stored in an area specified by the area identification information of said write data storing request and when said flush command request is inputted, the data stored in the area specified by the area identification information of said write data storing request is stored in said disk device.

Claim 9 (canceled).

10. (currently amended) The data processing system according to claim 8, wherein the area identification information of said cache memory includes volume identification information and segment identification information.

11. (currently amended) A computer-readable medium having stored thereon a data processing program for functioning a data processing system having a computer which executes said data processing for executing a program, and a storage unit having a cache memory for storing data transmitted as a result of execution of said program, a cache controller having a cache management table and a disk device having memory medium for

storing data stored in said cache memory, wherein said data processing program when executed causes the steps to be performed of:

in said computer, making and sending a write request, in a write-through mode, thereby to update data of the program unreflected upon said disk device, issuing a flush command to said storage unit in order to reflect a page being on said cache memory unreflected upon said memory medium, onto said memory medium, and making and sending a write request, in the write-through mode, to said storage unit for requesting write of a synchronous point journal which records, in the storage unit, completion of a synchronous point process until a check point from said computer to said storage unit,

in said cache controller of said storage unit, in response to said flush command from said computer, if a mode in said cache management table corresponding to a page for said flush command coincides with write-after, writing the page indicated by a cache pointer for the page in said cache management table to said memory medium and changing a cache management entry in said cache management table to a state of reflected,

in said cache controller of said storage unit, in response to said write request, if a mode designated during said write request is write-after, writing data in said cache memory, and changing said cache management entry for the page to a state of unreflected, and

in said cache controller of said storage unit, in response to said write request, if said mode designated during said write request is not write-after, writing the page to both said cache memory and said memory medium, thereafter changing said cache management entry for the page to the state of reflected, and a disk device for storing data stored in said cache memory,

_____ said program causing said storage unit to execute a step of responding to an input of a request for storing data transmitted from said program to store the data transmitted from said program in said cache memory, and a step of responding to an input of a request for flushing transmitted from said program to store, in said disk device, the data stored in said cache memory.

_____ wherein said flush request is transmitted from said program to said storage unit at the timing of a check point in a transaction process operated by said program.